APB447Mu61 100μg
Active Acetylcholinesterase (ACHE)
Organism Species: *Mus musculus (Mouse)*
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Eukaryotic expression.
Host: 293F cell
Residues: Glu32~Leu614
Tags: N-terminal His-tag
Purity: >90%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 5% Trehalose .
Original Concentration: 200μg/mL
Applications: Cell culture; Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 5.9
Predicted Molecular Mass: 66.4kDa
Accurate Molecular Mass: 70kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.
Store at 2-8°C for one month.
Aliquot and store at -80°C for 12 months.
Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the

protein at 37ºC for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

EGREDPQLLVRVRGGQLRGIRLKAPGGPVSAFLGIPFAEPPVGSRRFMPPEPKRPWSGVLDATTFQN
VCYQYVDTLYPGFEGTEMWNPNRELSEDCLYLNVWTPYPRPASPTPVLIWIYGGGFYSGAASLDVYD
GRFLAQVEGAVLVSMNYRVGTFGFLALPGSREAPGNVGLLDQRLALQWVQENIAAFGGDPMSVTLFG
ESAGAASVGMHILSLPSRSLFHRAVLQSGTPNGPWATVSAGEARRRATLLARLVGCPPGGAGGNDTE
LIACLRTRPAQDLVDHEWHVLPQESIFRFSFVPVVDGDFLSDTPEALINTGDFQDLQVLVGVVKDEG
SYFLVYGVPGFSKDNESLISRAQFLAGVRIGVPQASDLAAEAVVLHYTDWLHPEDPTHLRDAMSAVV
GDHNVVCPVAQLAGRLAAQGARVYAYIFEHRASTLTWPLWMGVPHGYEIEFIFGLPLDPSLNYTTEE
RIFAQRLMKYWTNFARTGDPNDPRDSKSPQWPPYTTAAQQYVSLNLKPLEVRRGLRAQTCAFWNRFL
PKLLSATDTLDEAERQWKAEFHRWSSYMVHWKNQFDHYSKQERCSDL

[ACTIVITY]

The classical role of ACHE is to terminate cholinergic neurotransmission by hydrolysis of acetylcholine (ACH). ACHE is thought to be involved in the pathology of Alzheimer's disease (AD) by accelerating the assembly of A beta peptides into fibrillar species through forming complexes with A beta via the peripheral anionic site on ACHE. ACHE inhibitors have been used to delay symptoms of AD patients by virtue of their ability to enhance ACH availability, as well as reduce amyloidogenesis and subsequent neurotoxicity. Its involvement in the cholinergic anti-inflammatory pathway connects ACHE with a possible marker of low-grade systemic inflammation in obesity, hypertension, coronary heart disease, and AD. The activity of recombinant mouse ACHE was measured by its ability to cleave Acetylthiocholine in the assay buffer 0.1 M sodium phosphate, 0.05% (w/v) Brij-35, pH 7.5. 50 μL of various concentrations of rmACHE (diluted by Assay Buffer) was added into the 96-well clear plate and the reaction was started by the addition of 50 μl substrate mixture of 200 uM acetylthiocholine and 100 uM DTNB. The final well serves as a negative control with no rmACHE, replaced with 50 μl assay buffer and 50 ul substrate mixture. Read plate in kinetic mode for 5 minutes at an absorbance of 405 nm. The specific activity of recombinant mouse ACHE is >2200

nmol/min/μg.

$$\text{Specific Activity (nmol/min/ug)} = \frac{\text{Adjusted } V_{max}^{*} \text{ (OD/min) x well volume (L) x } 10^{9} \text{ nmol/mol}}{\text{ext. coeff}^{**} \text{ } (M^{-1}cm^{-1}) \text{ x path corr.}^{***} \text{ (cm) x amount of enzyme (ug)}}$$

*Adjusted for Substrate Blank
**Using the extinction coefficient 13260 $M^{-1}cm^{-1}$
***Using the path correction 0.320 cm

[IDENTIFICATION]

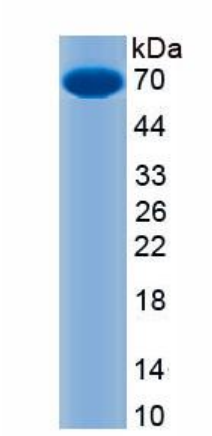

Figure 1. SDS-PAGE

Sample: Active recombinant ACHE, Mouse

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.